



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/585,655 | 07/07/2006 | Susumu Takumai | YAMA:134 | 5541 |
| 37013 7590 09/16/2009 ROSSI, KIMMS & McDOWELL, I.L.P. 20609 Gordon Park Square, Suite 150 Ashburn, VA 20147 | | | | |
| EXAMINER | | | | |
| FAULK, DEVONAE | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2614 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 09/16/2009 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/585,655

Applicant(s)

TAKUMAI ET AL.

Examiner

DEVONA E. FAULK

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-13 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

1. The applicant asserts that the examiner's restriction was not proper or incomplete. The examiner disagrees. The examiner indicated which claims corresponded to a certain species. The election/restriction was done according to PCT Rule 13.1. The applicant did not properly elect. Claim 9 was addressed under the species election for claim 5. The examiner asserts that claims 10-13 were generic, therefore they were not included in the election/restriction. The examiner is maintaining the restriction.

Election/Restrictions

1. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

For claim 1, the species are:

Species 1: claim 2

Species 2: claim 3

Species 3: claim 4

For claim 5, the species are:

Species 1: claim 6

Species 2: claim 7

Species 3: claim 8

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

2. The claims are deemed to correspond to the species listed above in the following manner:

For claim 1, the species are:

Species 1: claim 2

Species 2: claim 3

Species 3: claim 4

For claim 5, the species are:

Species 1: claim 6

Species 2: claim 7

Species 3: claim 8

Species 4: claim 9

The applicant needs to elect a species for each generic claim.

The following claim(s) are generic: Claims 1 and 5 are generic.

3. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

4.

For generic claim 1,

claim 2 has a special technical feature of

the sound signal processing unit divides the speaker array into left and right reproduction regions for reproducing a left channel and a right channel of a stereo sound source or surround sound source the left and right reproduction regions having the frequency band with a lowest passing frequency are located at a central portion of the speaker array,

the left and right reproduction regions having the frequency band with the highest passing frequency are located at increases from a central portion toward opposite end portions of the speaker array, and

the number of speakers allocated to the left and right reproduction regions decreases decreasing as the passing frequency of the frequency band increases.

Claim 3 has the special technical feature of wherein the sound signal processing unit implements a signal processing manner so that a sound signal of a center channel of the stereo sound source or surround sound source becomes non-directional.

Claim 4 has the special technical feature of wherein the sound signal processing unit left and right center channel reproduction regions that reproduces4hea

center channel of the stereo sound source or surround sound source the left and right center channel reproduction regions having the frequency band with the highest passing frequency are located at a central region of the speaker array, the left and right center channel reproduction regions having the frequency band with the lowest passing frequency are positioned farthest away from the left and right center channel reproduction regions having the frequency band with the highest passing frequency band increases from the opposite end portions to the central portion with, and the number of speakers allocated to the left and right center channel reproduction regions decreases as the passing frequency of the frequency band increases.

For generic claim 5,

Claim 6 has the special technical feature of 6. passing frequency band of the primary filter is divided into a high frequency band, a medium frequency band and a low frequency band, and the number of the speaker driving set to pass the high frequency, band smaller than the number the speaker driving circuits set to pass the low or medium frequency band.

Claim 7 has the special technical features wherein the passing frequency band of the primary filter increases from the speaker or speakers positioned at the central portion of the speaker array to the speakers positioned at the opposite end portions of the speaker array.

Claim 8 has the special technical feature of wherein the speaker driving circuits implement a signal processing so that a sound signal of a center channel of the stereo sound source or surround sound source becomes non-directional.

Claim 9 has the special technical feature of wherein each of the speaker driving circuits has a secondary that filters a sound signal of the center channel of the stereo sound source or surround sound source the passing frequency band of the secondary filter of each of the speaker driving circuits is set-seas to increase from the speakers positioned at a peripheral region of the speaker array opposite end portions to the speaker or speakers positioned at a central region central portion of the speaker array.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/
Primary Examiner, Art Unit 2614